

NEW AND DISJUNCT RECORDS OF *ELEOCHARIS LIESNERI* (CYPERACEAE) FROM SOUTH AMERICA

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ABSTRACT

Eleocharis liesneri is reported here for the first time from Brazil and Colombia. These newly discovered specimens represent the only collections known besides the type of the species, and suggest that this taxon might have a peri-Amazonian distribution. A detailed description, key, and illustration to aid in separation of *E. liesneri* from other South American species of *Eleocharis* subg. *Limnochloa* with which it has been confused are provided.

RESUMEN

Eleocharis liesneri se cita aquí por primera vez de Brasil y Colombia. Estos especímenes representan las únicas recolecciones conocidas aparte del tipo de la especie, y sugieren que este taxon pudiera tener una distribución periamazónica. Se ofrece una descripción detallada, una clave, e ilustración para ayudar en la separación de *E. liesneri* de otras especies suramericanas de *Eleocharis* subg. *Limnochloa* con las que ha sido confundido.

Eleocharis R. Br. is a cosmopolitan genus of about 200 species and 600 published names with a concentration of taxa in tropical America (González-Elizondo & Tena-Flores 2000). *Eleocharis* subg. *Limnochloa* (P. Beauv. ex Lestib.) Torr. (= *Eleocharis* ser. *Mutatae* Svenson) is distinguished from other *Eleocharis* by a combination of usually cartilaginous to indurate, obscurely keeled, many-veined floral scales, coarse culms (often as thick as the spikelet) and biconvex (rarely trigonous) achenes usually conspicuously sculptured with polygonal cells (González-Elizondo & Peterson 1997).

During examination of specimens for a systematic study of *Eleocharis* subg. *Limnochloa*, I discovered a collection from the State of Mato Grosso, Brazil, that was identified as *E. fistulosa* (Poir.) Link, an illegitimate name for *E. fistulosa* (Poir.) Schult., which is currently treated as a synonym of *E. acutangula* (Roxb.) Schult. However, this specimen differs from *E. acutangula* in having terete rather than triquetrous culms, longer floral scales, larger achenes with more numerous longitudinal rows of epidermal cells, and belongs instead to *Eleocharis liesneri* S. González & Reznicek. Additional collections of *E. liesneri* from near Sao Paulo, Brazil, and from Departamento de Antioquia, Colombia, were also discovered annotated as *E. mutata* (L.) Roem. & Schult and *E. acutangula* respectively. This species has not been recorded from Brazil or Colombia, being

previously known only from the type location in the highlands of SE Venezuela (González-Elizondo & Reznicek 1996). The discovery of a specimen of *E. liesneri* from Sao Paulo, ca. 3500 km SE of the type location, suggests that this poorly known taxon might be found in suitable habitat throughout the Brazilian Highlands (Fig. 1). The collection from Colombia suggests that *E. liesneri* has a peri-Amazonian distribution (personal communication, Socorro González-Elizondo). However, additional collections and a better understanding of the natural history (particularly habitat requirements) of this wetland species are needed to confirm this distribution. The purpose of this paper is to report these disjunct collections, and provide a key and illustration that might assist others in discovering additional misidentified specimens of *E. liesneri*.

As suggested by González-Elizondo and Reznicek (1996) *Eleocharis liesneri* is very near, and could be confused with *E. obtusetrigona* (Lindl. & Nees) Steud. (Fig. 2 d-f), an infrequently collected species belonging to subg. *Limnochloa*. Prior to the work of González-Elizondo et al. (2002), *E. obtusetrigona* had been poorly defined, being reduced to synonymy under *E. fistulosa* by Svenson (1939); or treated as a variety of *E. mutata*. (Clarke 1898) or *E. fistulosa* (Barros 1960). Both *E. liesneri* and *E. obtusetrigona* differ markedly from *E. mutata* in having usually terete rather than trigonous culms, larger achenes, a neck like constriction between the achene apex and tubercle, and larger floral scales.

A key to separate *Eleocharis liesneri* from *E. acutangula*, *E. mutata*, and *E. obtusetrigona*, along with a description modified from González-Elizondo and Reznicek (1996) and illustration are provided below. Achene lengths in the key include the tubercle.

KEY TO AID IN IDENTIFICATION OF *ELEOCHARIS LIESNERI*
IN SOUTH AMERICA

1. Floral scales coarsely many veined (raised veins clearly discernable at 20×); achene apex markedly constricted to a short neck, the neck sometimes obscured by the style base.
 2. Culms terete or obscurely 3–5-angled distally or rarely trigonous with the culm faces flat or slightly convex and the angles obtuse in some specimens of *E. obtusetrigona*
 3. Achenes 2.8–3.2 mm long, 1.3–1.9 mm wide with 23–26 longitudinal rows of transversely oblong cells; exposed portion of floral scales longer than wide _____ ***E. liesneri*** (Fig. 2 a–c)
 3. Achenes (2.2)2.4–2.9(–3.1) mm long, 1.3–1.5(–1.6) mm wide with 11–18 longitudinal rows of transversely reniform cells; exposed portions of floral scales about as long as wide _____ ***E. obtusetrigona*** (Fig. 2 d–f)
 2. Culms triquetrous distally, the culm faces concave and the angles acute-winged _____ ***E. acutangula***
1. Floral scales finely many veined (raised veins not clearly discernable at 20×); achene apex slightly constricted at the summit into a hard annular thickening of the same texture and color as the achene _____ ***E. mutata***

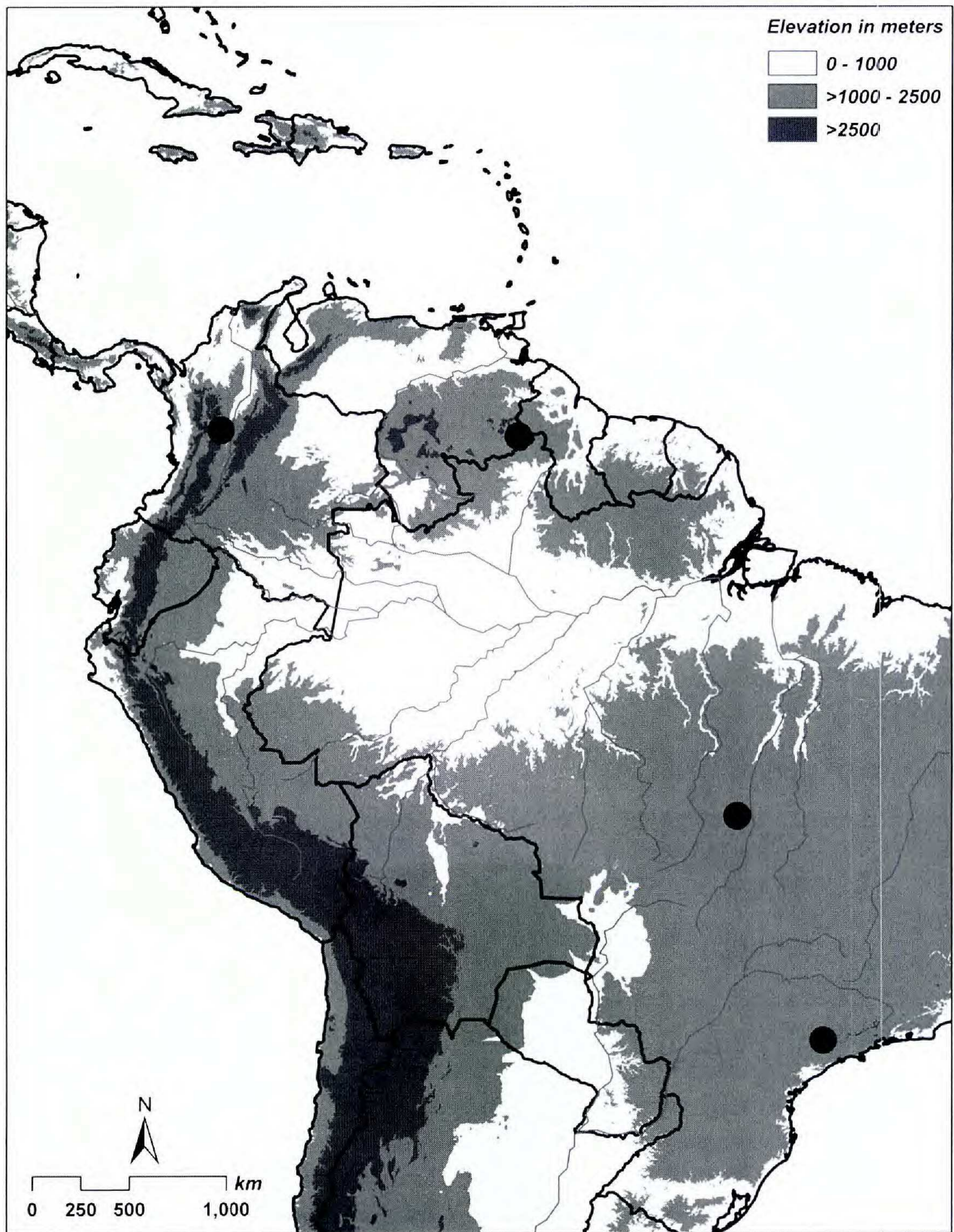


FIG. 1. Peri-Amazonian distribution of *Eleocharis liesneri* S. González & Reznicek.

Eleocharis liesneri S. González & Reznicek, Novon 6:361. 1996. (Fig. 2a-c). TYPE: VENEZUELA. BOLÍVAR: Gran Sabana, ca. 10 km SW of Karaurin Tepui at junction of Río Karaurin and Río Asadon (Río Sanpa), gallery forest, 5°19'N, 61°03'W, 900-1000 m, riverbank, 23 Apr 1988, R. Liesner 23698 (HOLOTYPE: MO!; ISOTYPE: NY!).

Perennial herb; roots coarse, fibrous, dark drab brown; rhizomes elongated, to

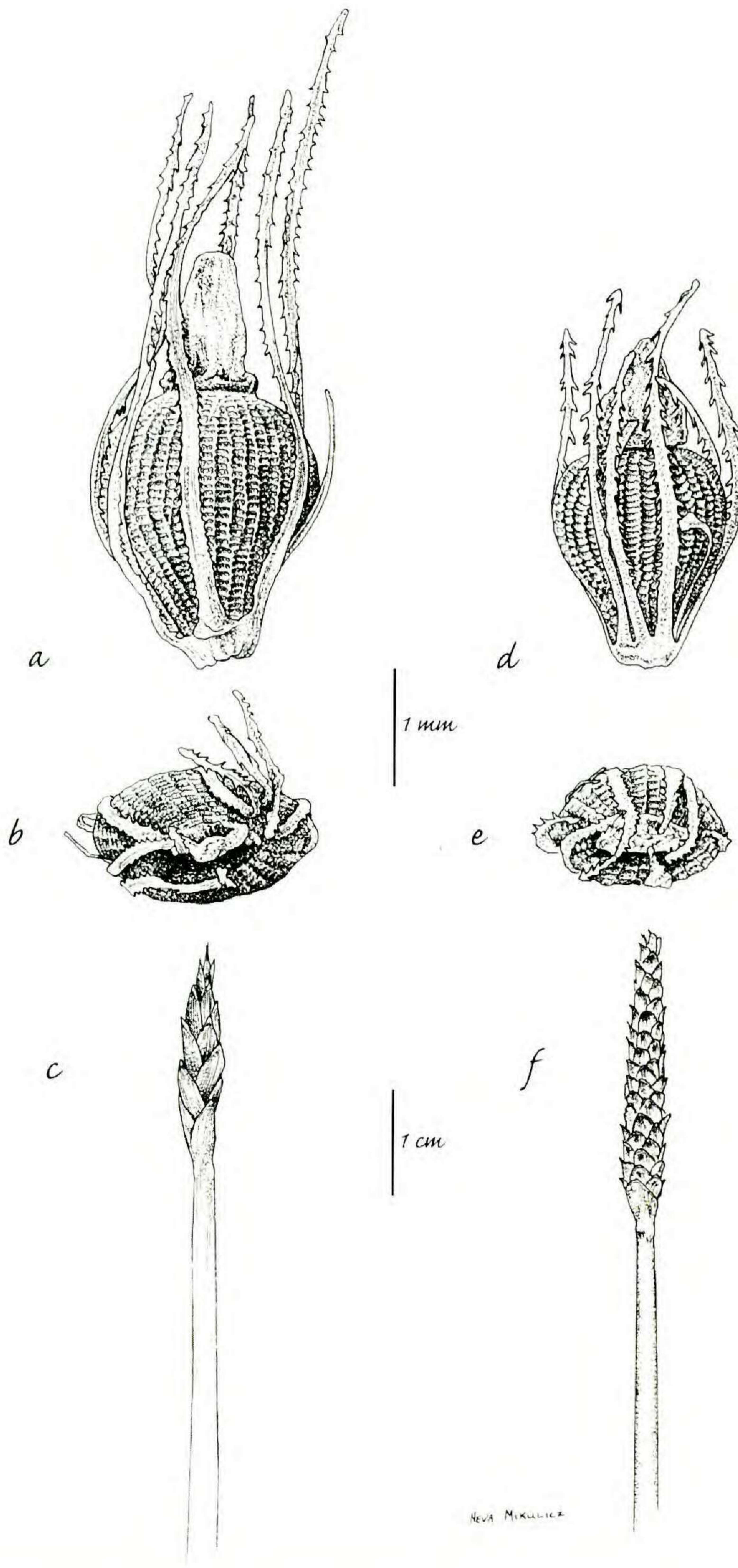


FIG. 2. *Eleocharis liesneri* S. González & Reznicek. **a–b.** Detail of achene, perianth bristles, and tubercle. **c.** Detail of spikelet and distal end of culm. *Eleocharis obtusetrigona* (Lindl. & Nees) Steud. **d–e.** Detail of achene, perianth bristles, and tubercle. **f.** Detail of spikelet and distal end of culm. a–c drawn from *Liesneri* 23698 (MO) and d–f drawn from *Pedersen* 7634 (C) by Neva Mikulicz.

ca. 1.8 mm thick, scales not seen, tubers absent; culms (when dry) terete or distally obscurely 3-angled, 40–65 cm \times 2–4.4 mm, rigid, internally spongy, with incomplete transverse septa, finely longitudinally striate, olive-brown; leaves reduced to sheaths, sheaths 2, apically notched, membranous, loose, friable, variable in color proximally from dark brown to maroon, distally cinnamon to rufous, apex acute; spikelet cylindrical, narrowly-lanceolate, 1.6–2.4 cm \times 3.9–4.5 mm, acute, proximal scale empty, obtuse, amplexicaul, appearing as a continuation of the culm; floral scales appressed to weakly spreading, oblong, 5.5–6.2 mm \times 2.3–3.2 mm, distal and medial 0.2–0.5 mm hyaline-erose, cartilaginous, darkish centrally or subapical dark splotch, reddish-stramineous marginally, apex acute (the distally hyaline region obtuse-rounded if present), central area nearly flat, coarsely many veined, mid-vein not distinguishable abaxially, conspicuous in adaxial view; perianth bristles 6–8, sub-equal, exceeding the tubercle, ascending, broad and strap-shaped proximally, coarsely retrorsely spinulose nearly to the base, the spinules coarse distally, becoming finer and more closely spaced proximally, stramineous; stamens 3; style trifid; achene biconvex, more or less obovoid to broadly obpyriform, 2.8–3.2 mm (including tubercle) \times 1.3–1.9 mm, with 23–26 longitudinal rows of deeply concave transversely oblong polygonal cells visible through transparent periclinal layer on each achene face, dull, buff, maturing to shiny light brown, apex constricted to about 0.4 times the width of the achene to a distinct neck (this sometimes obscured by the style base); tubercle dorsoventrally compressed, triangular, 0.5–1.2 mm \times 0.7–0.9(–1) mm, dark brown.

Specimen citations. **BRAZIL. Mato Grosso do Sul:** Central Brazilian Plateau, ca. 1–3 km W of Km 261 Xavantina-Cachimbo road, in standing water in wet forest marsh, 12° 49'S, 51° 46'W, 19 Jan 1968, *Philcox & Ferreira 4124* (NY). **Sau Paulo:** Gesammelt in Sud-Brasilien um Sao Paulo, without date (specimen bears annotation by C. B. Clarke dated 24 Apr 1906), *Usteri s.n.* (ZT). **COLOMBIA. Departamento de Antioquia:** Mpio. de Sonson, km 4 of road Sonson-La Union (52 km from La Union), disturbed roadside vegetation, 05° 44' N, 75° 18' W, 2480 m, 04 Oct 1987, *Zarucchi et al. 6240* (MO).

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